

Remarks

For the Specification:

The Applicant has amended the specification to correct minor typographical and/or grammatical errors. These amendments add no new subject matter.

For the Claims:

The Office Action rejects claims 1-21. This Amendment retains claims 1-21 as originally submitted. The Applicant respectfully requests reconsideration.

In section 2, the Office Action rejects claims 1, 2, 5-8, 10-17, and 19 under 35 U.S.C. 103(a) as being unpatentable over Slemon et al., U.S. Patent No. 5,910,765 (hereinafter Slemon) in view of Allgood, U.S. Patent No. 4,361,833 (hereinafter Allgood).

Regarding independent claims 1 and 16, the Office Action asserts that Slemon discloses a sensor loop for distributing indications of a condition monitored at different locations. The sensor loop has a plurality of sensors units in a sensor array, that each sensor has a local power source and a local load. The Office Action also asserts that all sensors in the sensor array have a determinable detection capability, and that individual sensors may detect conditions from individual perspectives.

The Office Action further asserts that while Slemon does not teach a local sensor switch for each of the sensors, Allgood does, and it would be obvious for one of ordinary skill in the art to combine Allgood with Slemon. The Office Action also asserts that Allgood teaches a multi-sensor alarm having

interconnected terminals, and that the sensors may be represented as contact switches whose configuration may be either normally open or normally closed.

Independent claim 1 claims:

1. A sensor loop for distributing indications of a condition monitored at different locations, said sensor loop comprising:
a plurality of sensor units coupled in series to form a closed circuit, wherein each sensor unit comprises:
a local power source;
a local sensor switch; and
a local load, said local load, said local sensor switch and said local power source being coupled in series within said sensor unit.

Similarly, independent claim 16 claims:

16. A method of distributing indications of a condition monitored at different locations, said method comprising:
positioning sensor units at said different locations;
configuring each sensor unit to include a local power source, a local sensor switch, and a local load electrically coupled in series, and a normally open local load switch coupled to said local load;
electrically coupling said sensor units in series to form a closed circuit; and
providing local indicators coupled to said local load switches and configured to indicate occurrences of said condition when said local load switches are open.

The Applicant respectfully draws attention to the claimed feature that the plurality of sensor units is coupled in series.

Referring to FIG. 1 of Slemon, it may be seen that Slemon comprises a plurality of sensor units 14a-g in a sensor array 12. There is no indication, however, that these sensors are connected

in series. Quite the contrary, as Slemon states, "the outputs 16 of sensors 14a-g are taken from the array 12 and presented as inputs to a pre-processor 18," (column 6, lines 22-24). FIG. 1 clearly shows separate outputs 16a-g from each of sensors 14a-g, respectively, with these separate outputs passing to pre-processor 18 in parallel, not in series. Slemon therefore teaches away from sensors coupled in series, as claimed in the Applicant's claims 1 and 16.

The Applicant now respectfully draws attention to the claimed feature that each sensor unit comprises (includes) a local power source.

Nowhere in Slemon is there any reference to "power," "power supply," "power source," or any other like reference. Neither is there any indication of a power source for any of the components of Slemon in any of the Figures. In the total absence of any reference to a power source, it must be assumed that the apparatus of Slemon, including the sensors, is powered in a conventional manner, i.e., from a common power source. A common power source is specifically one of the problems which the present invention seeks to solve, as stated in the Background section of the specification in the paragraph beginning on page 3, line 21:

In conventional applications, a common power source is used for all sensors in a current loop. In some applications, the common power source introduces an intolerable false-OK vulnerability. In other applications, the common power source merely introduces a false-NOK vulnerability with respect to the absence of power due to an unwanted power-loss, but couples all sensors together in a manner that introduces an intolerable false-OK vulnerability to ground voltage rises or transient spikes and other typical power anomalies.

To read into Slemon the local power source for each sensor claimed in independent claims 1 and 16 can only have been accomplished via hindsight. This is not allowed.

Slemon does not read on either independent claim 1 or independent claim 16 as submitted. Also, no inclusion of Allgood in any form would cause Slemon to read on independent claims 1 or 16 as submitted. The Applicant believes independent claims 1 and 16 to be allowable as submitted. The Applicant respectfully requests reconsideration of independent claims 1 and 16.

Regarding claims 2, 5-8, 10-15, 17, and 19, the Office Action goes on to assert that the sensor of Allgood can be represented as two normally open contact switches, that Slemon discloses an alarm signal activated when the sensors are exposed to the environment, that Allgood teaches a multi-sensor alarm having interconnected terminals, and that Allgood discloses a multi-sensor circuit interconnect with an alarm circuit, where the sensors may be represented as contact switches whose configuration may be either normally open or normally closed.

The sensors of Slemon lack serial connections and local power sources as discussed hereinbefore in conjunction with independent claims 1 and 16. No combination of Allgood with Slemon overcomes this fact. It would therefore not be obvious to one of ordinary skill in the art to combine Allgood with Slemon.

Additionally, claims 2, 5, and 10-15 depend directly from allowable independent claim 1. Claims 6 and 8 depend indirectly from allowable independent claim 1 through claim 5. Claim 7 depends indirectly from allowable independent claim 1 through claims 5 and 6. Claims 17 and 19 depend directly from allowable independent claim 16. Claims 2, 5-8, 10-15, 17, and 19 are therefore allowable for reasons of dependency.

The Applicant believes claims 2, 5-8, 10-15, 17, and 19 to be allowable as submitted. The Applicant respectfully requests reconsideration of claims 2, 5-8, 10-15, 17, and 19.

In section 3, the Office Action rejects claims 3, 4, 9, 18, 20, and 21 under 35 U.S.C. 103(a) as being unpatentable over Slemon in view of Allgood, and further in view of Curto et al., U.S. Patent No. 6,311,107 (hereinafter Curto).

Regarding independent claim 20, the Office Action asserts that Slemon disclose that all sensors in the array have a determinable detection capability, and that individual sensors may detect conditions from individual perspectives. The Office Action also asserts that Allgood teaches a multi-sensor alarm having interconnected terminals, and that the sensors may be represented as contact switches whose configuration may be either normally open or normally closed. The Office Action further asserts that the combination of Slemon and Allgood fails to disclose an anemometer as a sensor, but that Curto does, and it would have been obvious to one of ordinary skill in the art to combine Curto with Slemon and Allgood.

Again, the sensors of Slemon lack serial connections and local power sources as discussed hereinbefore in conjunction with independent claim 1. No combination of Allgood and/or Curto with Slemon overcomes this fact. It would therefore not be obvious to one of ordinary skill in the art to combine Allgood and/or Curto with Slemon.

The Applicant believes independent claim 20 to be allowable as submitted for the reasons stated hereinbefore in connection with independent claims 1 and 16. The Applicant respectfully requests reconsideration of independent claim 20.

Regarding claims 3, 4, 9, 18, and 21, the Office Action goes on to assert that that Curto discloses an anemometer as a sensor, that Slemon discloses that all sensors in the array have a determinable detection capability, that individual sensors may detect conditions from individual perspectives, that one of these perspectives may be that of a solar collector, and that Slemon discloses an alarm signal activated when the sensors are exposed to the environment.

The sensors of Slemon lack serial connections and local power sources as discussed hereinbefore in conjunction with independent claims 1, 16, and 20. No combination of either Allgood or Curto with Slemon overcomes this fact. It would therefore not be obvious to one of ordinary skill in the art to combine either Allgood or Curto with Slemon.

Additionally, claims 3 and 4 depend directly from allowable independent claim 1. Claim 9 depends indirectly from allowable independent claim 1 through claims 5 and 8. Claim 18 depends directly from allowable independent claim 16. Claim 21 depends directly from allowable independent claim 20. Claims 3, 4, 9, 18, and 21 are therefore allowable for reasons of dependency.

The Applicant believes claims 3, 4, 9, 18, and 21 to be allowable as submitted. The Applicant respectfully requests reconsideration of claims 3, 4, 9, 18, and 21.


Accordingly, claims 1-21 remain in the application as originally filed and are believed to be allowable.

The Applicant believes that the foregoing amendments and remarks are fully responsive to the rejections recited in the 4 February 2004 Office Action and that the present application is

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now in a condition for allowance. Accordingly, reconsideration of the present application is respectfully requested.

Respectfully submitted,

A handwritten signature in cursive script, reading "Lowell W. Gresham". The signature is written in dark ink and is positioned above a horizontal line.

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